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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHU, KIM KWOK

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/556,832	BUCHLER, CHRISTIAN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kim-Kwok CHU	2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Pre-Amendment filed on 11/15/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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***Drawings***

1. Figures 1A and 2A should be designated by a legend such as --Prior Art-- as described in Applicant's specification, sections 0009 and 0010.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Regarding Claim 1, it claims "An appliance" which is an apparatus but does not recite any structure required for performing the function "reading" and "writing", instead, the claim requires "signals" to carry out "differential methods" and to be used "for generation of land groove detection signal". It is not clear what being claimed as structural part(s) of the appliance. Claim 1, as best can be interpreted for art application purpose, it claims an apparatus for reading and writing to/from an optical recording medium, performing

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differential focusing methods and generating a land groove detection signal;

(b) Regarding claim 2, lines 15-17, the step "scanning ...with deflection of the objective lens in focus direction" is not clear as it is not clear what is meant by scanning with deflection of the objective lens in focus direction. Normally, scanning is associated with light beam but here it claims scanning with deflection of lens in focus direction which is not clear what being claimed. Further, Regarding the step "measurement of two measurement signals (CFE, OFE, S)", it is confusing as "CFE", "OFE", and "S" appears to be three signals. Within the measurement step, "the scanning beam" does not have antecedent basis. Further step of "measurement" is confusing as it appears to not be in compliance with the preamble limitation where recites that the scanning unit is to evaluate and derive (not measure)the CFE and OFE signals. It appears that the limitation "measurement of two measurement signals (CFE, OFE, S) which are formed differently" should be read--differentiating the two derived signals (CFE, OFE)---. In step "evaluation", the term "the measurement signals" is confusing with the "two measurement signals" recited above. In the formation step, the phrase "by a second of the branch weights (1-k, k, k)" is confusing as the branch weights as recited earlier includes (k,

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$k'$ ,  $1+k$ ,  $1-k$ ), so "the branch weights  $(1-k, k, k)$ " does not have clear antecedent basis.

Claim 2 appears should be read as follow:

(Rewritten claim 2) A method for generating a track type signal (DFO) using a scanning unit for scanning an optical recording medium (7) having tracks storing data, the scanning unit having an objective lens (6), a focus control loop, and a plurality of photodetector segments (9), producing an optical main beam and at least one secondary beam, evaluating light reflected from the recording medium (7) using said a plurality of photodetector segments (9) which are associated with the beams, deriving a first error signal (CFE) from the signals of the photodetector segments (9, A, B, C, D) associated with the main beam and deriving a second error signal (OFE) from the signals of the photodetector segments (9, EI-E4, FI-F4) associated with the secondary beams, the method comprising:

- scanning of the optical recording medium (7) with said light beams deflected by the objective lens (6) in a focus direction;
- measuring by differentiating the two measurement signals (CFE, OFE) which are formed differently and contain details about the distance of the objective lens (6) relative to the recording medium (7) and about the position of the scanning light beams relative to the tracks on the recording medium (7);

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- evaluating the measured signals;
- setting branch weights ( $K$ ,  $K'$ ,  $I+K$ ,  $1-K$ ) controlled by the result of the evaluating step;
- forming track type signal (DFO) by combining the first error signal (CFE) multiplied by a first of the branch weights ( $I+K$ ) and the second error signal (OFE) multiplied by a second of the branch weights ( $I-K$ ,  $K$ ,  $K'$ ).

Dependent claims 3-11 should be drafted as that of assumed claim 2 above of which clear steps with constructive functions that are well interrelated to those steps of claim 2 to avoid unclear and confusing issue.

Regarding claim 9, line 1, the claim is recited to depend from itself (3 or 9) is incorrect and thus is not clear what alternative is meant.

Regarding claim 11/9 and 11/10, these are improper multiple dependent claims that are dependent on multiple dependent claims 9-10. Therefore the scope of claims 11/9 and 11/10 are not clear.

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***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless -  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

5. Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Shimano et al. (U.S. Patent 6,400,664). Shimano teaches an appliance for reading from and/or writing to optical recording media having all of the following features:

(a) as in Claim 1, the appliance (Fig. 1) for reading from and/or writing to optical recording media 107 (Fig. 1), characterized in that wherein signals which are required for carrying out differential focusing methods (such as AF) also are used for generation of a land groove detection signal (Fig. 4; signals detected can be used for focusing and tracking).

6. Claims 2, 3, 6 are 9-11 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shimano et al. (U.S. Patent 6,400,664).

Shimano teaches a method for generating a track type signal having all of the following steps:

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(a) as in Claim 2, the method for generating a track type signal in a scanning unit (Fig. 1) for optical recording media 107 having data stored in tracks 204, 205 (Fig. 2), with the scanning unit having an objective lens 106 (Fig. 2, column 10, lines 15 and 16) and a focus control loop (objective lens controller), producing an optical main beam 108 and at least one secondary beam 109 (Fig. 1; column 10, line 13 and 14), evaluating light reflected from the recording medium with a plurality of photodetector segments (Fig. 4) which are associated with the beams, deriving a first error signal (AF is an error signal) from the signals of the photodetector segments associated with the main beam and deriving a second error signal (AF is an error signal) from the signals of the photodetector segments associated with the secondary beams (Fig. 2; AF consists of error signals generated from the main beam and the secondary beams), comprising: scanning of the optical recording medium with deflection of the objective lens in focus direction (Fig. 1; scanning requires the objective lens being focused on the tracks); measurement of two measurement signals which are formed differently (push-pull) and contain details about the distance of the objective lens relative to the recording medium and about the position of the scanning beam relative to the tracks on the recording medium (Figs. 2 and 4;



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measurement signals are AF and TR); evaluation of the measurement signals (Fig. 4); setting of branch weights (gain) controlled by the result of the evaluation (Fig. 4; setting a gain); formation of the track type signal (AF and TR) by combination of the first error signal (a+b+c+d) multiplied by a first of the branch weights (such as 1) and of the second error signal (e-f+g-h+i-j+k-l) multiplied by a second of the branch weights G1 (Fig. 4).

(b) As in Claim 3, the claimed method is used with the focus control loop switched on, with the objective lens being deflected by feeding a disturbance signal (any error) into the focus control loop, a track error component (Fig. 4; TR) contained in the error signals and caused by the disturbance signal being extracted, and the correct setting of the branch weights G2 being determined from the phase angle and the amplitude of a track error component (Fig. 4).

(c) As in Claim 6, the objective lens is deflected by moving it toward the recording medium with the focus control loop open (disable focusing control).

(d) As in Claim 9, the magnitude of the change to the branch weights (G1 or G2) in an adjustment step being determined as a function of the value of the evaluation signal in a

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previous adjustment step (AF and TR are servo loop control signals).

(e) As in Claim 10, signals which are involved being normalized with respect to the sum of the individual signals on which they are each based (Fig. 4; each detecting element of the photodetector is normalized with respect to each other as they are in the same detecting surface).

(f) As in Claim 11, an apparatus for carrying out one of the methods as claimed in claim 2.

***Allowable Subject Matter***

7. Claims 4, 7 and 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claim 4, the prior art of record fails to teach or fairly suggest an optical scanning method having following steps:

(a) the first measurement signal being formed from the disturbance signal and the second measurement signal being

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formed from the difference between the first error signal and the second error signal in order to extract the track error component, and the product of the measurement signals being evaluated as the evaluation signal.

As in claim 7, the prior art of record fails to teach or fairly suggest an optical scanning method having following steps:

(a) the first measurement signal is formed from the first error signal, the second measurement signal is formed from the second error signal, the amplitudes of the measurement signals are evaluated, and the branch weights are calculated from the measured amplitudes such that the difference between the error signals multiplied by the branch weights disappears.

As in claim 8, the prior art of record fails to teach or fairly suggest an optical scanning method having following steps:

(a) the first measurement signal is formed from the first error signal ~multiplied by the first branch weight, the second measurement signal is formed from the second error signal multiplied by the second branch weight the amplitudes of the measurement signals are evaluated and, if there are any differences between the amplitudes, the branch weights are changed in at least one adjustment step such that the difference

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between the amplitudes is reduced.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

### ***Related Prior Art***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Murata et al. (7,158,455) is pertinent because Murata teaches a weighted servo signal for positioning an objective lens.

Tanaka (6,388,963) is pertinent because Tanaka teaches a weighted servo signal for positioning an objective lens.

Ohno et al. (5,828,634) is pertinent because Ohno teaches a weighted servo signal for positioning an objective lens.

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10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on (571) 272-7579.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

/Kim-Kwok CHU/

Examiner AU2627

November 18, 2008

(571) 272-7585

/HOA T NGUYEN/

Supervisory Patent Examiner, Art Unit 2627